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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY



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ORIGINAL
FILE

Ms. Donna Searcy, Secretary
FEDERAL COMMUNICATIONS COMMISSION
1919 "M" Street, NW
Washington, DC 20036

RE: Ex Parte Presentation
August 26, 1992

Dear Ms. Searcy:

This is to notify the Commission that an "Ex parte" presentation was made to Dr. Thomas Stanley, and members of the staff of the Office of Engineering & Technology, by members of this firm.

Discussed was a "Position Paper" developed by this firm, a copy of which is attached hereto. Specifically items related to Docket 90-314 are a part of this document, as well as a Proposed Rulemaking related to Part 15 regulations, which we are preparing, but have not yet filed.

Attending from Drivefone were:

Lee R. Montellaro, Executive Vice President
Dr. Elmer Lipsey, Chief Scientist
Matt Edwards, Senior Vice President, Planning

Present from the OET were:

Dr. Thomas Stanley, Chief Scientist
Rodney Small
John Reed

This letter is being filed (in duplicate) pursuant to Section 1.1206 of the Commission's rules.

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Respectfully submitted,

Matt Edwards,
Senior Vice President

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POSITION PAPER INITIAL NARROWBAND PCS SERVICES FOR 900 MHZ BAND(S)

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Presented by

PCS Network, Inc., a division of

**DRIVEFONE, Inc.
37 Spring Valley Ave.
Paramus, NJ 07652**

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SUMMARY

PCS Network, Inc., strongly supports Commission actions which will permit early entry into the marketplace of services and products based on the FDMA-TDD technology known as the CT-2 Common Air Interface.

The American Public has been awaiting the wonders of Personal Communications Services ; the efficiency and productivity of American businesses depends on such enhanced wireless services.

In fact, America's very ability to compete effectively in the Global Marketplace is hindered by its reliance on the traditional tethered telecommunications infrastructure. "Cutting the Cord" will drastically improve communications for many business segments.

Wireless communications products and services are needed now, and are available now.

In order to permit such early entry, we propose that the Commission permit the use of both the 901-902 and 940-941 MHz bands by CT-2 compatible devices on an exclusive basis, and permit additional shared use of the 902-928 Mhz band for those users licensed or authorized at 901 MHz; and shared use of the 941-948 MHz band by those licensees authorized at 940 Mhz.

Amendments of the Commission's rules would be necessary to reassign 902-905 Mhz to PCS Part 99, or alternately a relaxation of power limitations within the 902-905 Mhz segment of the Part 15 band, to permit CT-2 type devices to operate in the Part 15 band. Further, Amateur Radio usage of the 902-905 MHz band segment would have to be constrained, possibly by imposition of power restrictions

We do not foresee, however, any serious impact from CDMA ("Spread Spectrum") devices, and would propose that they be permitted to continue to operate as currently authorized. Power restrictions for the entire 901-905 range would be 20 Mw and the channels would be 100 KHz wide. Such rules would be similar to those proposed for the new Part 15 band at 1920 MHz.

WHY CT-2?

The technology inherent in the CT-2 Common Air Interface (hereafter "CAI") calls for the avoidance of occupied frequencies in a Dynamic Channel Allocation scheme. Although there will be occasions where interference will be received by CT-2 users if operating on the non-exclusive frequencies of the Part 15 band, the allocation of the one-MHz exclusive bands, coupled with the low power radiated by CT-2 equipment and the resultant small cell size and high frequency reuse factor, will insure communications capability in all but the most miniscule number of instances. No interference to primary users in the shared spectrum, is expected to be caused.

The CT-2 CAI, because it is now available off-the-shelf, and widely used around the world, permits virtual immediate deployment. Further, as a base for future enhancements, it will insure upward and downward compatibility of equipment, services, and satisfaction of user needs. Thanks to Motorola's leadership, the US has overcome the UK as the world's leader in CT-2.

CT-2 has become the de-facto digital cordless telephone and wireless PBX standard around the world. Current manufacturers include: Motorola, Timex(Shaye), Racal(Orbitel), Plessey, Dassault, and Northern Telecom. Motorola has opened manufacturing plants for CT-2 equipment in Malaysia and soon in China (PRC).

It should be noted that American Personal Communications' trial in Washington, though called "PCN", is in reality a CT-2 system in every respect. Ameritech's trial in Chicago is also CT-2 based.

BACKGROUND

CT-2 as a both a concept and a technology was developed in the UK in the 1980s to be a superior second-generation cordless telephone. This system, digital based, would be private, noise-free, and provide interconnectivity between various applications. Thus a handset purchased for home use could be used in a CT-2 wireless PBX (after proper registration), or in the public environment as an access device to the PSTN or other network.

Such a universal terminal (handset) opens up a large number of communications opportunities, and satisfies the Commission's quest for universality as proposed at the December 1991 "En banc" session.

In the UK, initially the DTI issued licenses to four carriers. Each carrier was to provide public access only (Telepoint or wireless Payphone) on a one-way basis. Additionally, purchasers could operate home cordless systems without licensing requirements. Although nothing within the Common Air Interface prohibits two-way calling in the public environment, it was decided that Telepoint carriers could only offer one-way service to subscribers. These decisions followed lobbying by cellular interests.

One area in which the DTI obviously erred was in not requiring or setting a single interface standard. Thus when the service was launched, three different carriers offered incompatible services, with no equipment commonality.

The result was that all three carriers in the UK ceased operation. Only in the last few months has service been reintroduced. But other factors also played a part, such as Ferranti's difficult exit from its core Defense Electronics business and massive financial setbacks from US acquisitions. Poor marketing and coverage issues also played a part.

Despite its halting start in the UK, CT-2 has been successfully implemented in a number of countries around the world.

BACKGROUND (continued)

Systems are in commercial operation in

Singapore,
Malaysia,
Thailand,
Hong Kong,
France,
Germany,
Holland,
and (again) in the UK.

Canada has authorized CT-2 Telepoint for initial service in 1993.

Systems are now under construction in the People's Republic of China, and Motorola is constructing a US \$ 120MM manufacturing plant in the PRC for its paging/Telepoint products. Hungary will deploy CT-2 in 1993.

Now further up the learning curve, carriers and providers intend to market differently, and price more competitively.

CT-2 for the home or office is an inherently Part 15 service, since the Telepoint carriers have little or no interest in deriving revenues from private use. Indeed, such "free" usage will increase the universe of handsets from which Telepoint subscribers will come. Yet consumers need protection from possible abuse by unregulated Part 15 Telepoint operators so that the experience of COCOT abuse is not repeated.

We urge the Commission to minimally regulate this service by licensing only a few (three or four) Telepoint Service providers in each licensing area.

Therefore we believe that an exclusive allocation of 901-902 (and 940-941) MHz for licensed carriers only, best serves the public need and the Commission's goals.

ALLOCATION ISSUES

The Commission has announced its intent to add the 901-902 and 940-941 Mhz bands to the Narrowband PCS ("AMS") allocation at 930-931 Mhz, for a total of 3 Mhz for certain PCS services. These offerings will included in Part 99, a proposed new Part of the Commission's rules.

We believe however, that a more fruitful allocation would be for the 901-902 Narrowband PCS allocation be extended to 905 MHz, for a total of 4 MHz. Such an allocation would permit 40 CT-2 channels, which theoretically could permit as many as 18,000 simultaneous conversations per square mile, even with random distribution of uncoordinated handsets and base stations.

Section 15.37(d) has kept many potential users off the 902-905 MHz segment, and monitoring has verified light activity. Action by the Commission to inhibit further deployment into this band is recommended until a decision can be made on this proposal.

A reimposition of Section 15.37(d), with a new termination date of May 25, 1993 will permit sufficient time for the Commission to rule on the merits of this proposal.

ALTERNATE SCHEME

940-941 MHZ UTILIZATION

The 940 Mhz allocation could be structured as 940-941 exclusive and 944-947 shared secondary, thus permitting full compatibility with the Canadian 944-948 CT-2 band. The Broadcast Auxilliary users at 943-947 could be migrated off the band and given the guard bands imbedded in the 1990-2110 Mhz range. This could be accomplished with just a minor rule revision, by permitting aural services STL at 1.99 GHz. There is in fact a full MHz of unutilized spectrum within the Broadcast Auxilliary Band at 1990 MHz.

RULE CHANGES PROPOSED

1. Restructure Part 15 rules so that new users and equipment (except spread-spectrum) are limited to operation within 905-928 MHz only. All existing users could use channels below 905 MHz but not be able to expand usage on frequencies within this band.
2. Reduce size of 902-928 MHz amateur band, and include amateurs in the new Part 15 allocation at 1910 MHz (with power restriction?) Alternately, Amateurs would have to limit themselves to 20 mW ERP in the 902-905 range.
3. The 901-902 MHz PCS band would then be expanded to 901-905 MHz. The Commission would limit the use of 901-902 MHz to licensed carriers who provide Telepoint services, and to PCS subscribers in communication with Telepoints. Should the 901-902 spectrum slice become busy, additional traffic would be carried in the 902-905 Mhz range. All private traffic would be limited to the 902-905 MHz spectrum.
4. The Proposed Part 99 rules would permit 20 mW ERP base stations and mobiles. Privately owned bases would be limited to 902-905 Mhz, but public service providers would be able to operate over the entire range of 901-905 MHz. These providers would be licensed by the Commission on the adopted Part 99 licensing scheme (local, regional, national, etc.)
5. Should the Commission deem regulation of Telepoint Service Providers to be unnecessary or inadvisable, then we strongly urge that the Commission license one or two Telepoint Management Radio system services in each area, so that signalling, fraud control, synchronization and other functions can be provided on an organized basis to maximize benefits to the public. These would operate in the 930-931 or 940-941 MHz band.

PROPOSED USE OF SPECTRUM

